

Appl. No. 10/542,225
Amdt. dated April 20, 2011
Reply to Office Action of January 20, 2011

Atty. Ref. 374611-000212
Customer No.: 73230

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:
Kenji KONO
Serial No. 10/542,225
Confirmation No. 3354
Filed: July 14, 2005
For: Wireless Communication Terminal and
Handoff Determination Method

Art Unit: 2617
Examiner: Ho, Huy C

AMENDMENT

Mail Stop AF
Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Dear Sir:

In response to the Office Action dated January 20, 2011, please amend this application as follows:

Amendments to the Claims are reflected in the listing of claims that begins on page 2 of this paper.

Remarks/Arguments begin on page 5 of this paper.

Amendments to the Claims

This listing of claims replaces all prior versions and listings of claims:

Listing of Claims:

1. (Previously presented) A wireless communication terminal comprising:
a measurement section that measures quality of a signal transmitted from a base station;
a determination section that determines whether or not handoff is to be performed based on a measurement result of the measurement section and a criterion of the determination of the handoff; and

a handoff section that performs the handoff based on a determination result of the determination section,

wherein the determination section determines whether the handoff section has performed a predetermined repetition pattern of handoffs, and changes the criterion of the determination of the handoff if it is determined that the handoff section has performed the predetermined repetition pattern of handoffs.

2. (Original) The wireless communication terminal according to claim 1, wherein the determination section changes the criterion of the determination of the handoff when a predetermined repetition of two pilot signals is acquired.

3. (Original) The wireless communication terminal according to claim 2, wherein when qualities of the two pilot signals acquired repeatedly are equal to or greater than a predetermined value, the criterion of the determination of the handoff is changed.

4. (Original) The wireless communication terminal according to claim 1, further comprising:

a detection section that detects time during which a preceding pilot signal is acquired every time handoff is performed,

wherein the determination section changes the criterion of the determination of the handoff based on the time detected by the detection section.

5. (Canceled)

6. (Previously presented) The wireless communication terminal according to any one of claims 1 to 4, wherein the wireless communication terminal enables to be in an idle state condition with both methods of cdma2000 1x method and 1xEVDO method, and the determination section is used as section for determining a handoff of cdma2000 1x method.

7. (Previously presented) A handoff determination method of a wireless communication terminal which performs wireless communication using each of a first communication method and a second communication method and enables to be in an idle state condition with both methods, the handoff determination method comprising the steps of:

measuring quality of a signal transmitted from a base station;

determining whether or not a handoff is to be performed based on a measurement result and a criterion of the determination of the handoff;

performing the handoff based on a determination result;

determining whether the handoff section has performed a predetermined repetition pattern of handoffs; and

changing the criterion of the determination of the handoff if it is determined that the handoff section has performed the predetermined repetition pattern of handoffs.

8. (Original) The handoff determination method according to claim 7, wherein the criterion of the determination of the handoff is changed when two pilot signals are repeatedly acquired.

9. (Original) The handoff determination method according to claim 8, wherein when qualities of the two pilot signals acquired repeatedly are equal to or greater than a predetermined value, the criterion of the determination of the handoff is changed.

10. (Original) The handoff determination method according to claim 7, wherein time during which a preceding pilot signal is acquired is detected every time handoff is performed, and the criterion of the determination of the handoff is changed based on the detected time.

11. (Canceled)

12. (Previously presented) The handoff determination method according to any one of claims 7 to 10, wherein the handoff determination method is used for a wireless communication terminal which enables to be in an idle state condition with both methods of cdma2000 1x method and 1xEVDO method, and whether or not handoff of the cdma2000 1x method is to be performed is determined.

13. (Canceled)

14. (Previously presented) The wireless communication terminal according to claim 1, wherein the predetermined repetition pattern of handoffs is a return handoff.

15. (Previously presented) The handoff determination method according to claim 7, wherein the predetermined repetition pattern of handoffs is a return handoff.

16. (Canceled)

17. (Previously presented) A wireless communication terminal comprising:

a measurement section that measures quality of a signal transmitted from a base station;

a determination section that determines whether or not handoff is to be performed based on a measurement result of the measurement section and a criterion of the determination of the handoff;

a handoff section that performs the handoff based on a determination result of the determination section;

a detection section that detects a time period during which a pilot signal is acquired; and

a change section that, when a handoff is performed so that a currently acquired pilot signal is switched to return to a same pilot signal that is same as a preceding pilot signal, changes the criterion of the determination of the handoff based on time period during which the currently acquired pilot signal is acquired until returning to the same pilot.

18. (Previously presented) A handoff determination method comprising:
 - measuring quality of a signal transmitted from a base station;
 - determining whether or not a handoff is to be performed based on a measurement result and a criterion of the determination of the handoff;
 - performing the handoff based on a determination result;
 - detecting a time period during which a pilot signal is acquired;
 - when a handoff is performed so that a currently acquired pilot signal is switched to return to a same pilot signal that is same as a preceding pilot signal, changing the criterion of the determination of the handoff based on time period during which the currently acquired pilot signal is acquired until returning to the same pilot signal.
19. (Currently amended) The wireless communication terminal according to claim 1, wherein the determination section changes the criterion of the determination of the handoff if it is determined that the handoff section has performed the predetermined repetition pattern of handoffs, and a strength or a quality of a current signal is below above a predetermined threshold.
20. (Currently amended) The handoff determination method to claim 7, further comprising:
 - changing the criterion of the determination of the handoff if it is determined that the handoff section has performed the predetermined repetition pattern of handoffs and a strength or a quality of a current signal is below above a predetermined threshold.

Remarks/Arguments

Reconsideration of this application is requested. The foregoing amendments are believed to merely clarify limitations that have previously been at issue, do not require further search and consideration, and thus are properly admissible after final.

Claim Status

Claims 1-4, 6-10, 12, 14, 15 and 17-20 are pending. Claims 19 and 20 are amended.

Claim Rejections – 35 USC 112

Claims 19 and 20 are rejected under 35 USC 112, first paragraph, as failing to comply with the written description requirement. In response, claims 19 and 20 are amended to recite that "a strength or a quality of a current signal is above a predetermined threshold", which is fully-supported in FIG. 2 and paragraphs 0054-0058 of applicant's published application. Thus, the rejection under 35 USC 112, first paragraph should be withdrawn.

Claim Rejections – 35 USC 102

Claims 1-4, 7-10, 14, 15, 17 and 18 are rejected under 35 USC 102(b) as anticipated by Cuffaro (US 5,999,814). In response, applicant traverses the rejections.

The "Response to Arguments" at page 3 of the Action argues that Cuffaro discloses that the "determination section...changes the criterion of the determination of the handoff if it is determined that the handoff section has performed the predetermined repetition of handoffs" because detection of oscillating handoffs stops repetition of handoffs. Applicant strongly disagrees.

Cuffaro relates to handling oscillating mobile station handoffs between cells in a cellular telecommunication network. The Action asserts that the action in step 35 of stopping a handoff corresponds to a criterion for determination of the handoff. However, this interpretation conflicts with the commonly understood meaning of "criterion" as a standard on which a judgment or decision may be based. Stopping a handoff at step 35 is an action that is by no means a standard on which a decision is based. Therefore, the criterion to which the Action refers must correspond to preceding step 32 (FIG. 3) that asks "is signal strength in serving cell above safe threshold?" Thus, Cuffaro discloses that the criterion of the determination of the handoff is a signal strength compared to a safe threshold value. Consequently, inhibition of oscillation is merely the action taken based on the determination result of that criteria (step 32).

With respect to claim 1, changing of the criteria is not disclosed because the question asked in step 32 is never changed. Therefore, the criteria of the determination does not change, and only the result of the determination will differ (step 33 or step 35). This is a critical distinction. Whether the result is the inhibition of handoffs at step 35 or the allowance of handoffs at step 33 is irrelevant because the criteria of determination is the same. Only if the criteria of step 32 is changed when step 21-yes is met would Cuffaro anticipate the invention. However, the condition of "is signal

strength in serving cell above safe threshold?" is a static criteria that is never altered. Thus, inhibiting handoffs at step 35 based on a determination that the signal strength is above a safe threshold at step 32-Yes fails to teach a change of the criterion of the determination of the handoff if it is determined that a repetition of handoffs is performed, as recited in the claims.

The Action further argues at page 4 that criterion changing "is just some rules that it applied for determining of the handoff when it is experiencing such repeating handoffs" and cites applicant's FIG. 2 where the threshold value is changed when pilot signals create a repetition handoff. At page 5, lines 9-10, the Action argues that this feature corresponds to step 103 of published paragraphs 0055-0059. Applicant disagrees as changing a criterion of handoff determination is not the execution of the rule (step 103), but the change of the rule itself (step 104). For example, step 104 of FIG. 2 teaches the changing of the threshold value for determining whether or not idle handoff is performed (paragraphs 0060-0061, 0064-0065). Consequently, the determination of a handoff corresponds to a decision step and not an action step. Thus, even if step 32 of Cuffaro is analogous to applicant's step 103 and paragraphs 0055-0059, applicant's explicitly claimed feature of changing the criterion of the determination of the handoff is not disclosed.

In addition, applicant's step 104 finds no correspondence to Cuffaro's step 35 since inhibiting a handoff for a predetermined time period does not change Cuffaro's safe threshold value. Inhibiting handoff is neither a rule nor a determination since the inhibition of a handoff at step 35 is not the changing of a rule, but merely the execution of the rule. If the entire process of FIGS. 2-3 were to repeat at a later time, the safe threshold value would be the same such that the rule in step 32 would not have been changed. Thus, a change in criterion is not disclosed by Cuffaro.

In sum, Cuffaro discloses a change in the handoff at step 35 where a handoff is inhibited for a time period and then allowed. However, a change in the determination of the handoff is not disclosed because the rule for determining if handoff is allowed or inhibited at step 32 is never changed. For these reasons, Cuffaro fails to anticipate claim 1. Independent claims 7, 17 and 18 recite analogous features and distinguish over Cuffaro for the same reasons.

Moreover, dependent claims 3 and 9 require that "when qualities of the two pilot signals acquired repeatedly are equal to or greater than a predetermined value, the criterion of the determination of the handoff is changed". The Action cites FIG. 3, step 32 of Cuffaro as teaching this feature where it is determined whether the signal strength is above a safe threshold value. However, this determination is performed for only the signal strength of the serving cell, and not of two pilot signals. In addition, FIGS. 2A and 2B also fail to disclose two pilot signals above a safe threshold value.

Since Cuffaro does not disclose each and every feature of independent claims 1, 7, 17 and 18, it cannot anticipate those claims or claims 2-4, 8-10, 14 and 15 dependent thereon. The rejections under 35 USC 102 should therefore be withdrawn.

Claim Rejections - 35 USC 103

Claims 6 and 12 are rejected under 35 USC 103(a) as obvious over Cuffaro in view of Yun (US 7,016,323). In response, applicant traverses the rejections. Claims 6 and 12 depend from claims 1 and 7 and are allowable for the same reasons as claims 1 and 7. In this regard, Yun relates to transmitting forward link data to a handoff mobile station in a CDMA communication system, and does not remedy the deficiencies of Cuffaro with respect to claims 1 and 7. For these reasons, the rejections of claims 6 and 12 under 35 USC 103(a) should be withdrawn.

Conclusion

This application is now believed to be in condition for allowance. The Examiner is invited to telephone the undersigned to resolve any issues that remain after entry of this amendment. Any fees due with this response may be charged to our Deposit Account No. 07-1896.

Respectfully submitted,

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Date: April 20, 2011

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